DESIGN

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DYNAMIC SYMMETRY

Clara Stroud

IT was a great privilege and pleasure for me to gather glints of Dynamic Symmetry thru lectures and personal contacts with Jay Hambidge. Mr. Hambidge devoted a large portion of his life in delving into the secret of the Greek proportion which has always maintained the standard of exquisite beauty. Dynamic Symmetry reduced to its simplest terms is nothing more or less than constructive geometry. Mr. Hambidge went deep into the mathematical calculations resulting in a maze of numbers and decimals. These are valuable for those who are able to manage them, but a haze are they for most students of art. The divisions of areas made by a few necessary lines will prove easy, direct and beneficial. It is the plan to here present certain of these areas obtainable thru Dynamic Symmetry as a help for design problems.

Symmetry means measuring together. Mr. Hambidge explained to us that there were two kinds of symmetry, static and dynamic. The static is fixed, regular, and equal; —found in snow crystals. The dynamic is moving, a force of great strength and vigor,—found in plant growth, animal life, and the human figure Dynamic Symmetry is this principle for the proportioning of areas which Jay Hambidge derived from nature and recovered thru the study of the shapes and forms of Greek Art.

Figure 1 is the "Plant Growth Rectangle," or the "Whirling Square Rectangle." Why it is called the Whirling Square Rectangle is plain to be seen by the fact that squares of various sizes, 1 to 7, appear to whirl around two diagonals. As to why it is called the Plant Growth Rectangle, suffice it to say simply,—that according to the impulse of growth the cell enlarges in a definite ratio as new cells are added, forming a cone. The cone rolled up is a shell. The spiral in nature results from a process of continued proportional growth. The spiral curve transformed into a right angle spiral presents areas of continued proportions each bearing the same relation to its predecessor as the one following bears to it. "Closely linked with the scheme which nature appears to use in its construction of form in the plant world is a curious system of numbers known as the summation series. It is so called because the succeeding terms of the system are obtained by the sum of

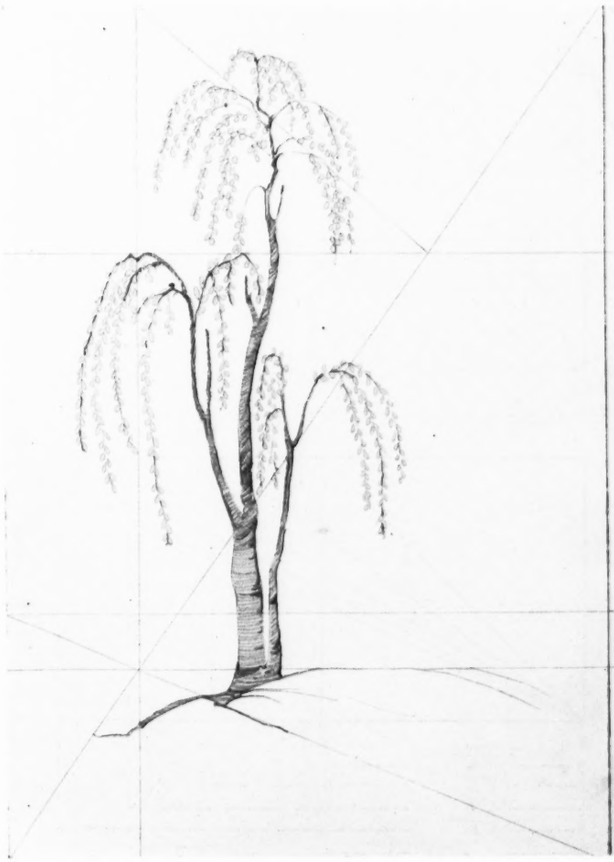


Figure 16—"Drippy Trees" from the Chinese

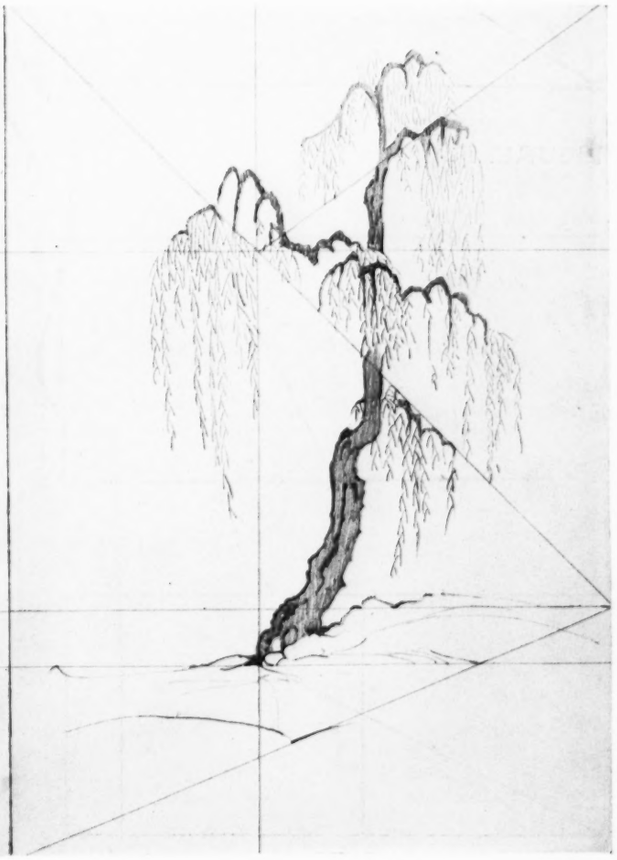


Figure 17—Theme in Root 2

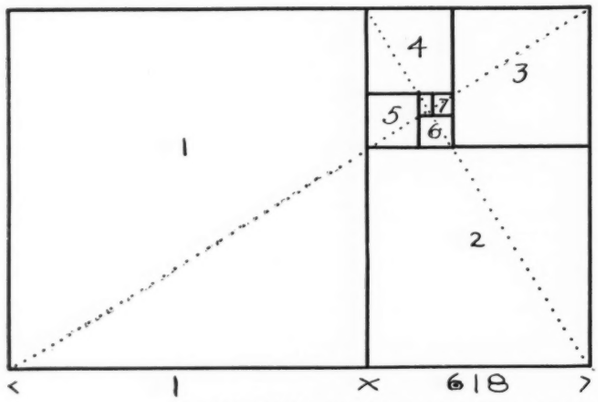


FIGURE 1. { PLANT·GROWTH·RECTANGLE
WHIRLING·SQUARE·RECTANGLE
1.618 RECTANGLE

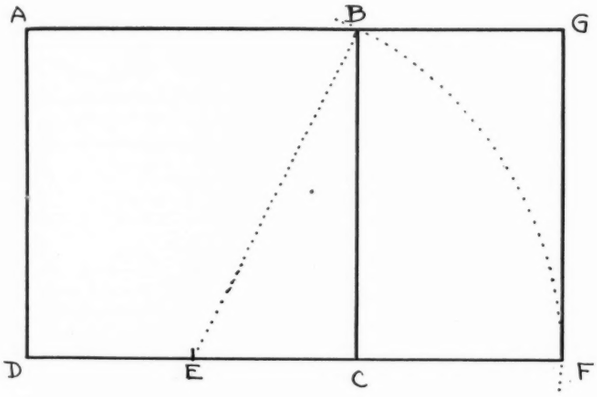


FIGURE 2.

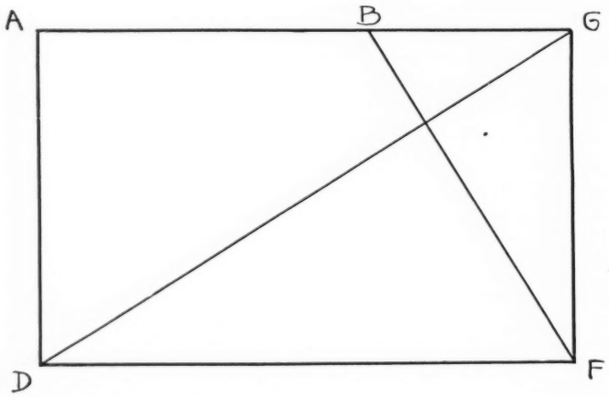


FIGURE 3.

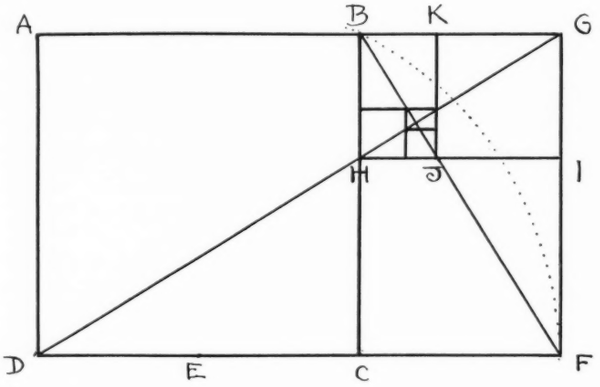


FIGURE 4.

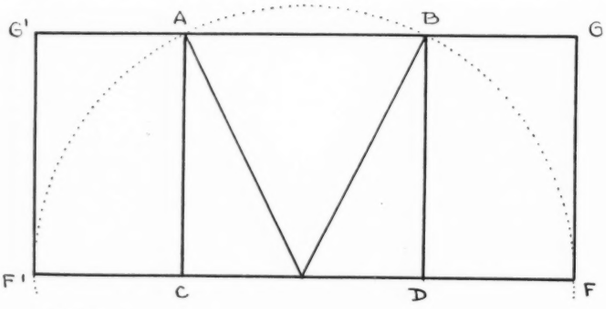


FIGURE 5.

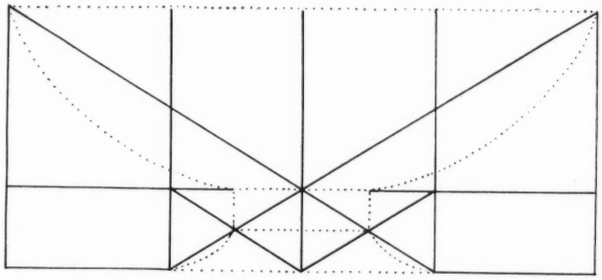


FIGURE 6.

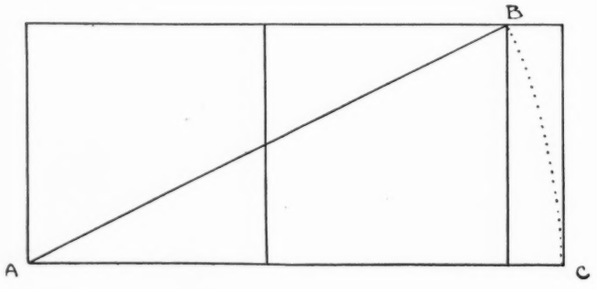


FIGURE 7.

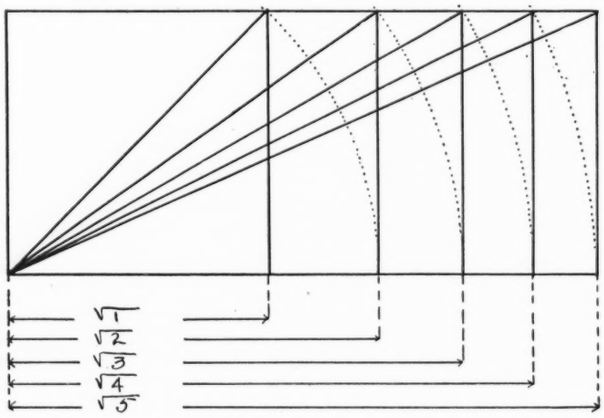


FIGURE 8. THE ROOT RECTANGLES OUTSIDE THE SQUARE

two preceding terms, beginning with the lowest whole number; thus—1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, etc. The plant, in the distribution of its form elements, produces a certain ratio, 1.618, which is obtained by dividing any one of the summation series by its predecessor. This ratio of 1.618 is used with unity to form a rectangle which is divided by a diagonal and a perpendicular to the diagonal." These facts are more definitely explained with greater detail in chapter one of "The Greek Vase" by Jay Hambidge. It is not necessary to learn these laws but more interesting to note the relationship.

Figure 2 shows how to construct this Plant Growth, Whirling Square, or 1.618 Rectangle of Fig. 1. Make a perfect square ABCD. Bisect the line DC so that DE=EC. Connect EB. Extend DC. Mark off the distance EB, starting at point E on the extended line. A compass is helpful. This gives point F. At F erect a perpendicular which will meet the line AB, when extended, at point G. The area AGFD is the Whirling Square or Plant Growth Rectangle.

The original square is (one) 1 (See Figure 1). The part or ratio built on measures .618 1/.618=1.618. This is also known as the 1.618 Rectangle. While each rectangle will possess a numerical value we are going to disregard that phase, however, and chiefly concern ourselves with the structural.

Figure 3 shows the Whirling Square Rectangle AGFD with the long diagonal DG and the short diagonal BF which is drawn at right angles to the long one and establishes the perpendicular from B that is BC of Fig. 2.

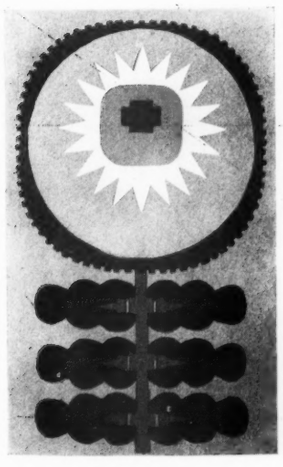
Figure 4 shows how to make the squares whirl. We have the rectangle AGFD, with the diagonals DG and BF drawn. The perpendicular BC cuts the diagonal DG at point H. Draw the line HI at right angles to the line BC. Where the line HI cuts the diagonal BF draw a line JK at right angles to HI, and so continue each time as the last line which you have drawn cuts one or the other of these diagonals and you will make a series of squares whirling around the intersecting of these diagonals.

Figure 5. Again take the square ABCD. By construction add on BDFG, then add on the section ACF'G' to the square making the entire shape G'F'FG of Fig. 5. This curiously is "root five," another of the famous dynamic rectangles.

Figure 6 shows the proportions of a Greek Kylix constructed from Fig. 5. The bowl part of the vase is determined by drawing diagonals from each lower corner of the square to the opposite corners of the large rectangle. The short diagonals establish the proportions of the base. This particular vase or "Black-figured Eye Kylix" at the Boston Museum has handles on each side. These are contained in shapes added on of a definite proportion and in relation to the rectangle. When we build on shapes they must be in the proper theme and no part of our design should extend beyond.

Figure 7 shows the easiest way to make a root five rectangle. Draw the diagonal of two squares AB and this is the distance swung around as AC. Erect the perpendicular at C and finish out the rectangle. Speaking about root five perhaps you are wondering if there are other root rectangles—and there are. Now let us consider the "root rectangles" as they are called.

Figure 8. Start with the square. The square is root one. Extend the lower line to the right. Set your compass with the diagonal of the square as a radius and mark off the same distance on the extended lower line. Erect the perpendicular. Complete the rectangle. Thus you have made a root two rectangle. (Do not confuse with the Plant Growth Rectangle which uses half of the square instead of the whole square for its diagonal.) Draw the diagonal of



Flower 13

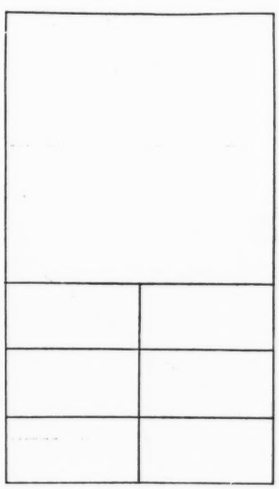


FIGURE 12. ROOT 3

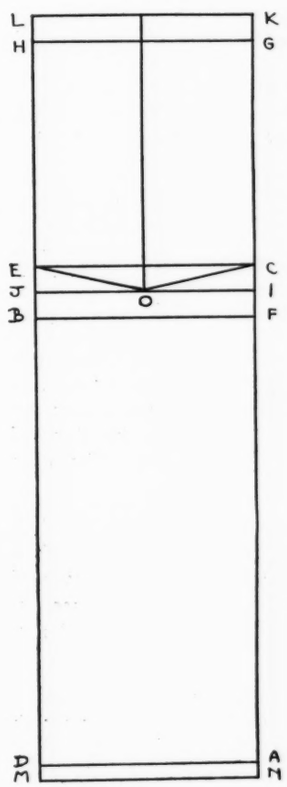
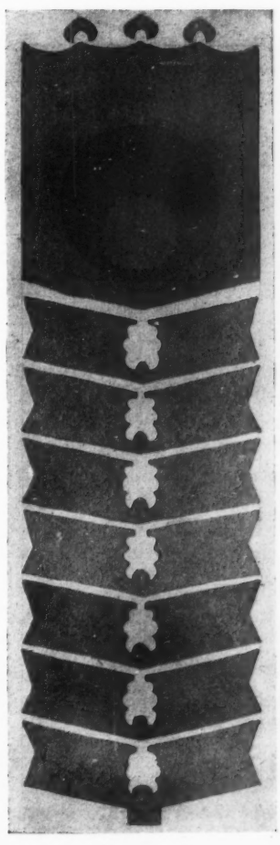


FIGURE 10



Flower 11

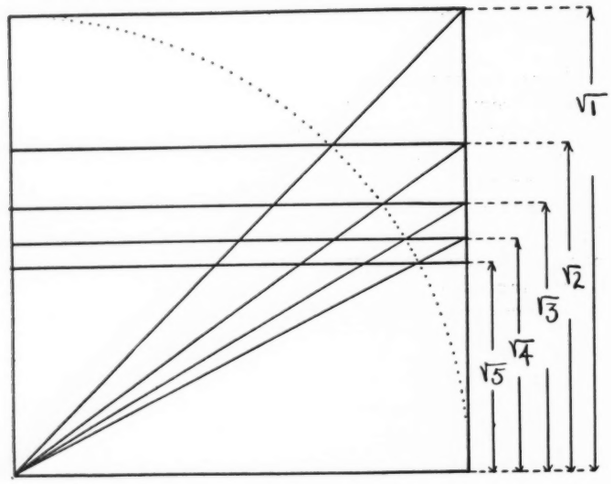


FIGURE 9. ROOT RECTANGLES WITHIN SQUARE

root two and set your compass with this diagonal as a radius and mark off a point on the extended lower line. Erect a perpendicular and complete the rectangle. Then you have made a root three rectangle. And so, one can continue indefinitely, but Mr. Hambidge maintained that root five was far enough to go.

Figure 9 shows the root rectangles constructed within the square. Draw the square and the arc of the circle. Where the longest diagonal cuts the arc of the circle draw a line across, parallel to the top line of the square. Now you have made a root two rectangle. Again, draw the diagonal of root two and where that cuts the arc of the circle draw across a parallel line. This makes root three. Continue, each time at the point where the last diagonal cuts the arc of the circle, to draw a parallel line. In passing note that root four is but two squares and not an interesting shape to use.

Figure 10 gives the plan for "Flower 11." A root five rectangle stood on end is ECAD, to which is added a square HGEC. ECFB is the reciprocal (so-called) shape of root five or that portion beyond the two squares with the diagonal as in Fig. 7. This reciprocal shape is divided into half and applied on top of the square, as LKGH, and one-third of the reciprocal shape is added at the bottom, as DMNA. See "Flower 11" as fitted into this entire form, the three small shapes at the top fit into LKGH. The flower itself is in the square. The diagonals EO and OC establish the slant of the leaves which are composed in the root five. The stem at the base fits into the small shape DMNA.

Figure 12 is root three as made from Fig. 8 or 9. This is stood on end. "Flower 13" is built on this plan. The flower itself is composed in the square. The remainder of the shape, that is, the reciprocal, is divided into three because it is root three. The center line gives six small rectangles for the leaves.

Figure 14 is the root two rectangle used for "Landscape 15." The square marked off gives the vertical line on which occurs the flag pole for the "yellow house on stilts." The long diagonal in part is used for the roof line of the orange building. The short diagonal is the roof line for another house. The diagonal of medium length establishes the top of certain trees. Continuing to draw perpendiculars, upright and horizontal lines, at points of crossing and intersecting of lines or diagonals, practically every horizontal, vertical, and diagonal line can be checked up in this composition. (Note:—Landscape 15 is color study.)

Figure 17 is a root two rectangle over all. This bisected gives two root two rectangles stood on end. Each is in proportion to the entire shape. By applying a square from the top and a square from the bottom of the two rectangles, and by drawing diagonals and perpendiculars, certain points were found for the structure. These trees, Fig. 16, are what we like to call the "Drippy" ones. They are sketched from the Chinese.

For designs made in the Plant Growth or Whirling Square Rectangle may I refer our readers to the February 1923 issue of KERAMIC STUDIO. On page 164 is a design made by Miss Fritts. This is a border of whirling square rectangles stood on end. The flower is made in the square and the leaves in the remaining part of the rectangle. Search thru to page 168. In April 1924 issue, pages 226-229 are designs in Whirling Square Rectangles while the forms of bowls on page 228 were made in root two rectangles. In an article, "Line Patterns," April 1923, you'll find bowls made by Dynamic Symmetry.

One big point in favor of Dynamic Symmetry is that when you make a dynamic shape you can rest assured that you have a rectangle of pleasing proportions. For students it is something definite to cling to, especially for those whose perception is as yet untrained to the fine feeling one can acquire with time and thru appreciation. These lines which mark off squares and reciprocals are the boundaries of areas and volumes and in measuring these proportions they are of value. As mere lines they are nothing. Design deals with areas, one area in relation to another, all the proper proportion with the whole.

In "The Greek Vase" by Jay Hambidge, one short chapter (chapter twelve) is devoted to static symmetry. It is the Dynamic Symmetry, vigorous in vitality, which concerns us chiefly. Designs so made seem to possess a certain force and power which might not otherwise be achieved.

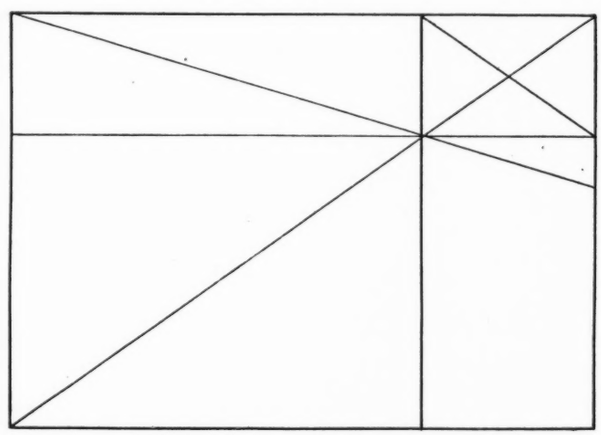


FIGURE 14 ROOT 2 RECTANGLE LANDSCAPE 15.

"Venus Does Her Daily Dozen"—Welthalee Grover

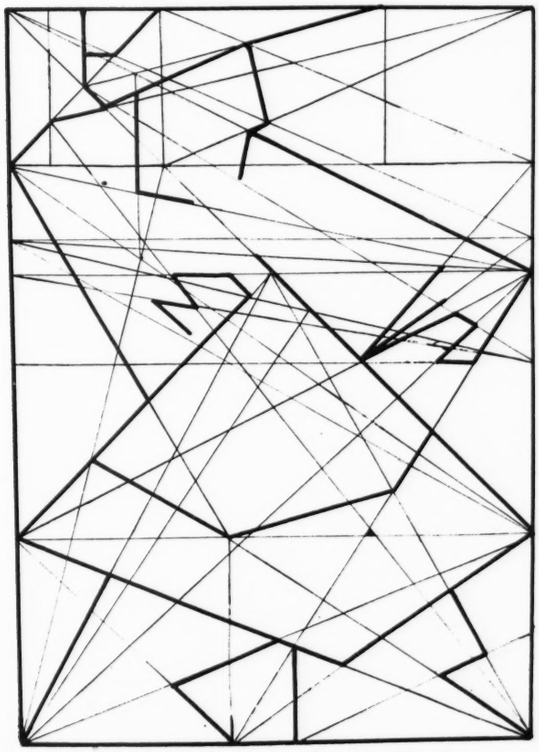
DESIGNING DECORATIVE FIGURES

Ethel M. Arnold

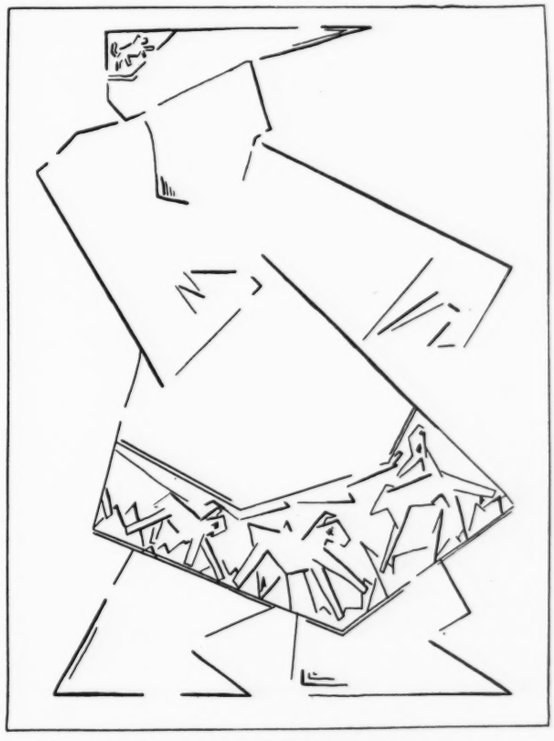
Kansas State College, Manhattan, Kansas

WHY shouldn't the cook to Pericles wear Greek fish embroidered on his trousers! Or the javelin thrower gird his tunic with an anthemion-like buckle! Greek research can be most interesting when there are smart decorative figures to adapt it to. And so archaic-derived animals swagger around the bottom of a coat, Venus wears a "fretted" skirt as she does her dozen, while a little stone sunbonnet god does some worshipping of his own at a huge Greek urn. These and other gay ideas resulted from a problem involving the use of historic research in conjunction with a decorative figure.

The students were a costume design class in Home Economics curriculum having had one school year (six hours a week) of design. With but little developed skill in representation and having had no life-drawing, problems which demanded use of the human figure were always difficult—until we commenced "designing" figures. The results were clever, expressive, and far more creative, we believe, than the usual costume figures done with the same amount of training. Dynamic Symmetry lay-outs were used as a basis for designing the figures, and while most art teachers are familiar with the theory, it may be wise to give some explanation of the method as used in this problem. I need not argue the value of the use of Dynamic Symmetry. If any art teacher is skeptical, let him try it once and forever after he'll be an addict. The fact that it has a definite, scientific basis need not worry the individualists. Aren't the laws of nature scientific? Isn't the theory of color scientific? It is time indeed that intelligent designing replaced the trial-and-



"Ye Greek Coolie"—Dorothy Wagner



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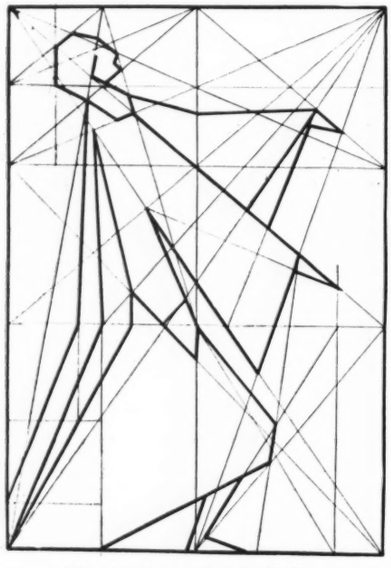
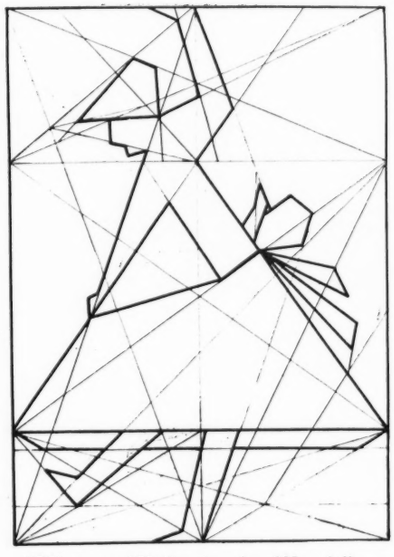


"Ceres Prays for Rain"—
Christine Wiggins

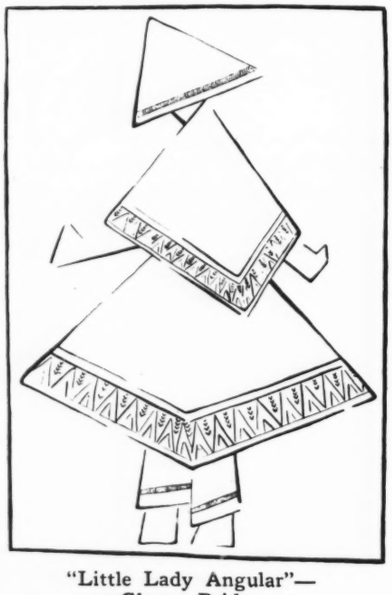
The Skier—Etnah Beaty



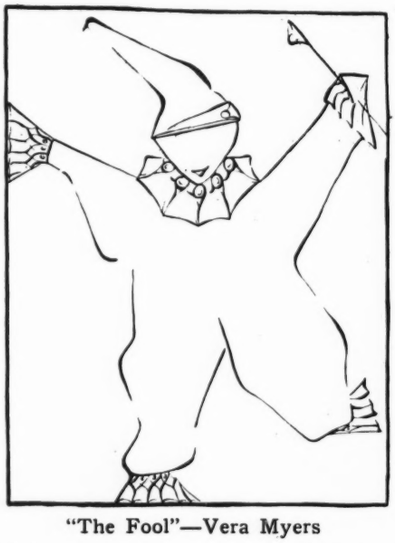
"Minerva Walks in the Woods"—
Dorothy Fulton

error method. A knowledge of Dynamic Symmetry is as logical and as helpful to a young student as a knowledge of balance, rhythm, and color. Suffice it to say the method adequately met the needs of this problem. The students felt they were actually creating and, more important, it was creation in terms of lines, spaces and action and not fingers, legs, and heads. Early in their design training each student learns the fundamental dynamic shapes and various ways of constructing them. In the two diagrams given A shows the construction of root shapes upon a square, and B within a square. No other knowledge of the theory is necessary. The rest lies in the intelligent *use* of the knowledge.

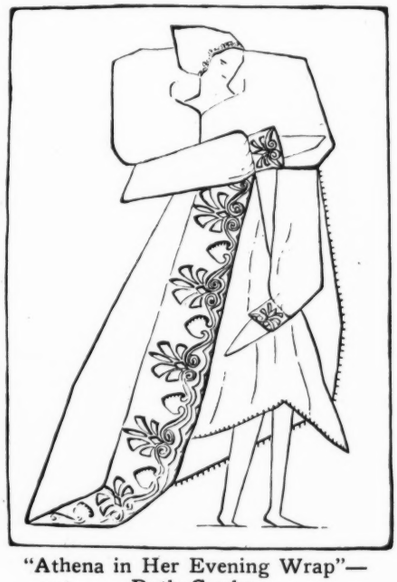
Each student chose his enclosing shape—a root two is always popular though a root three or a square quite often appears. The students worked on a large scale thinking always of simplicity. A root two rectangle based on a ten-inch square is a desirable size. With the outside shape constructed, the next step lay in the breaking up of the space. After a discussion of the theory and its applications we drew these conclusions as to space-breaking:



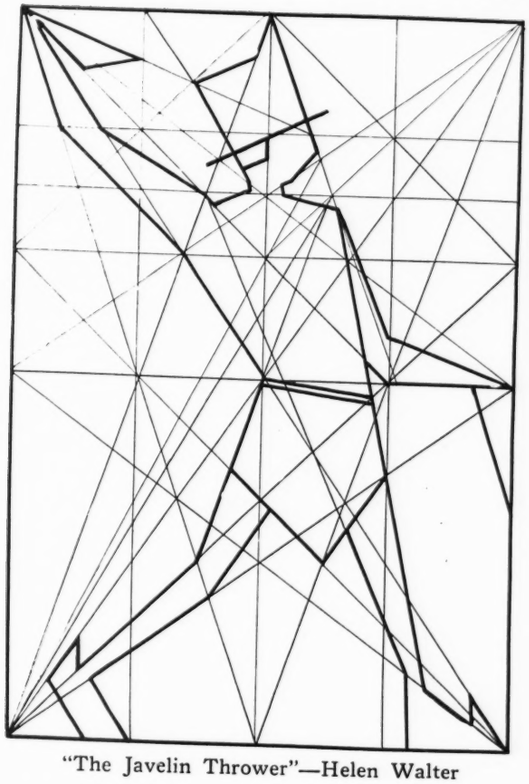
"Little Lady Angular"—
Glenna Bridges



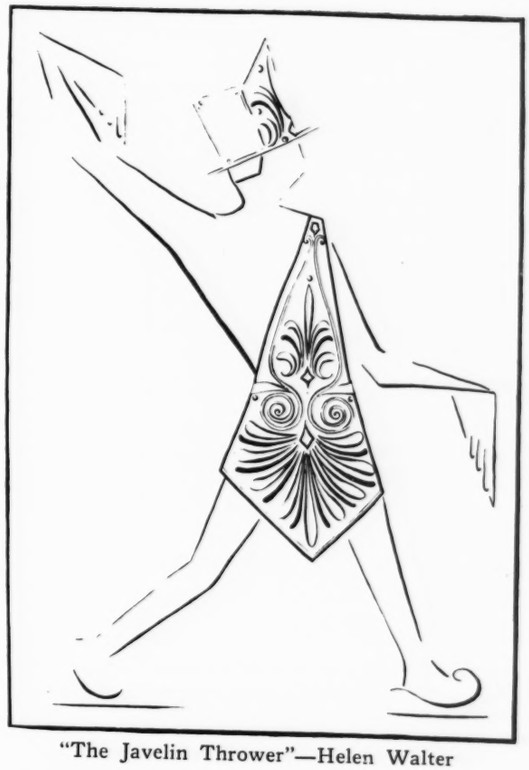
"The Fool"—Vera Myers



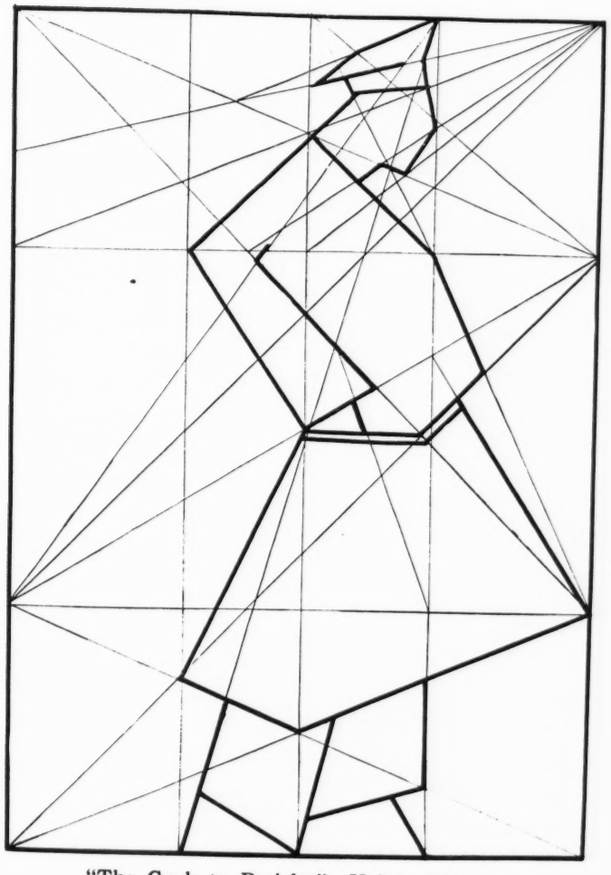
"Athena in Her Evening Wrap"—
Ruth Gugler



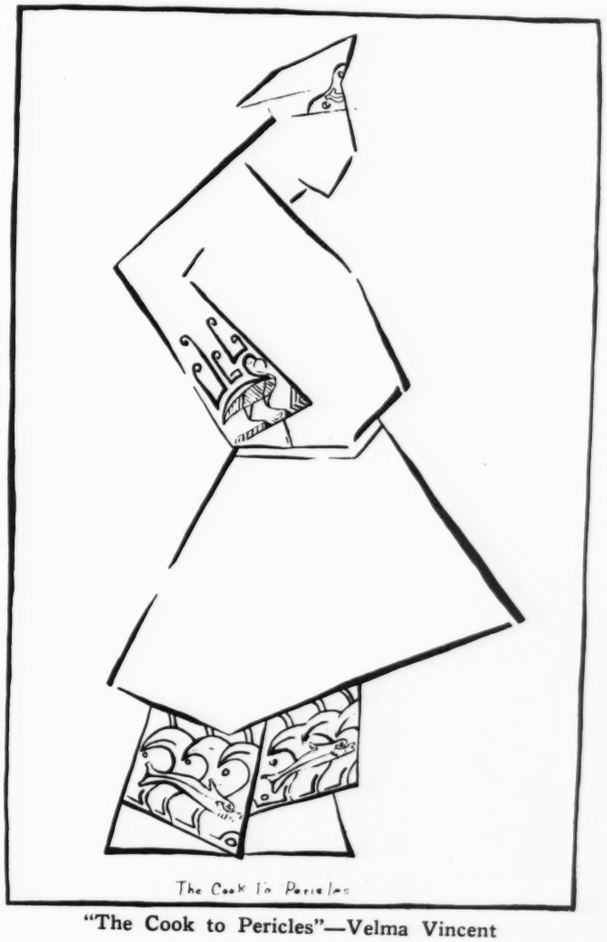
"The Javelin Thrower"—Helen Walter



"The Javelin Thrower"—Helen Walter



"The Cook to Pericles"—Velma Vincent



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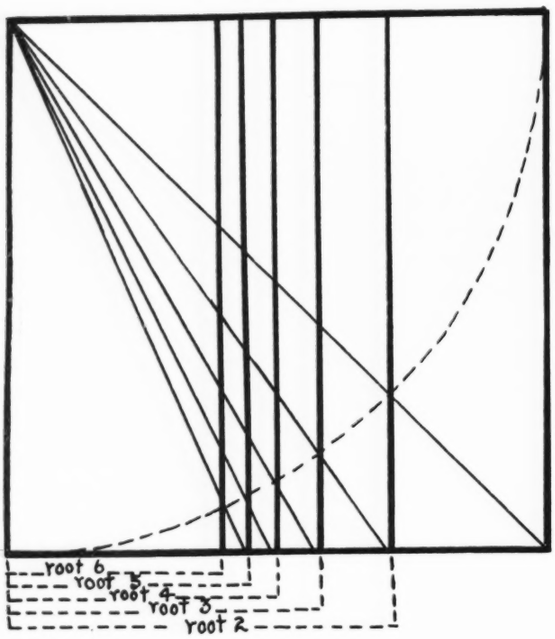
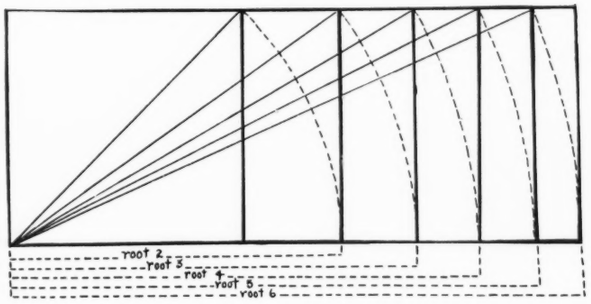


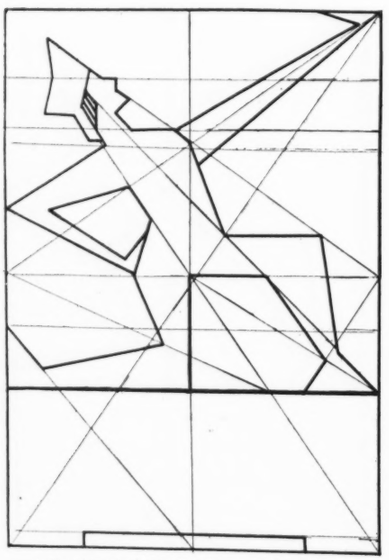


1. Diagonals of any area may be drawn since diagonals break shapes into proportional areas.
2. New shapes may be formed by construction of squares and root rectangles within the shape.
3. Angles may be bisected.
4. Lines may be drawn between intersections.

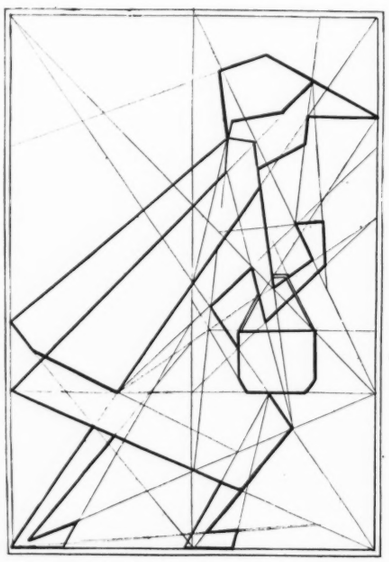
Figure C shows a simple lay-out with full explanation of each step. You will notice that some of the lines were not used and those used are arbitrary—a matter of *choice*.

Each student then planned his own lay-out, no two of which will ever be alike. He is urged to keep his plan simple with rather large areas. Too much breaking up of the background tends toward a confusion of lines—but isn't it always a test of artistic ability to know when to stop? Using these given lines and any new ones the student may find he needs as he works, the design is created. An idea is "read into" the shapes. I have seen a student hunt out a cow and a tree and ten minutes later in a similar lay-out find a ship and an old "salt". I have dictated a lay-out to an entire class to find the resulting designs bearing no likeness to each other for each student creates from his own knowledge, making his own choice of lines. Such is the versatility of the plan. The illustrations show both the background scheme and the figure.

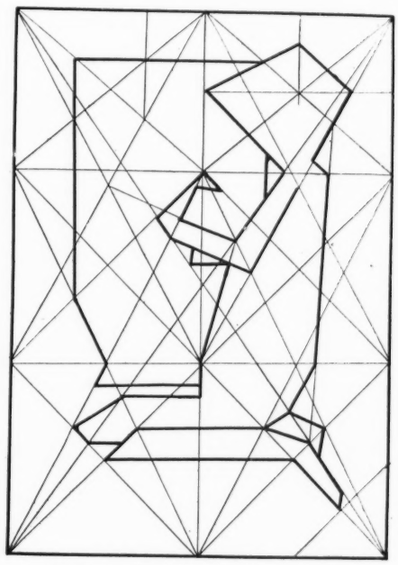
The second part of this particular problem was an adaptation of historic design to the composition. A short study had previously been made of the life, manners, and dress of the Greeks. From research pages of historic examples, the student selected parts, arranging, adding to, or eliminating —fitting the idea to the space and the spirit of the figure. The final design was executed in a free manner with brush and ink on bristol board. Although the final development of the problem was deliberately kept simple, many possibilities are evident. As poster figures either in silhouette or in more detail done in cut paper or tempera; in decorative panels with additional designs; or as suggestions for stage or pageant costumes. And wouldn't they be chic models for modern dolls?



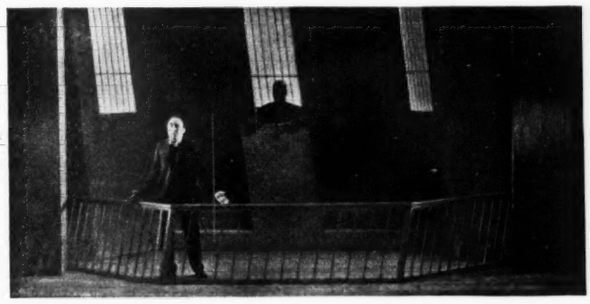
"Paris Before Helen of Troy"—
Dorothy Burnet



"Little Red Riding Hood"—
Welthalee Grover



"The Stone Sunbonnet God"—
Edythe Shrauner



Scene from the "Adding Machine" where the central idea is skilfully abstracted—From "Theatre Magazine"

STAGE SETTINGS FOR THE SERIOUS DRAMA, COMEDY, FARCE AND FANTASY

(Continued from May issue)

Felix Payant and Hamilton Ward

IN the previous article we have taken up the point of aesthetic attitude of the theatre—the theatre as a house of make-believe, where man enjoys the play of his imagination, also what the designer has to contribute and how the so-called elements of design function in the stage picture, which in turn echoes the expression of the drama. Before beginning our analysis of the various types of drama and what each demands for its setting, we wish to ask the reader to make a resumé of the constructive side of stage setting, or decor, as it is known in continental Europe. We have in mind the picture back of the proscenium which usually includes the tormentor, the adaptable and adjustable inner frame, the side masks which have been generally known as wings, the back drop or back cloth, all these with the space which they bound furnish the most important factors a basis for discussion of stage setting for workers in the little theatre or amateur groups.

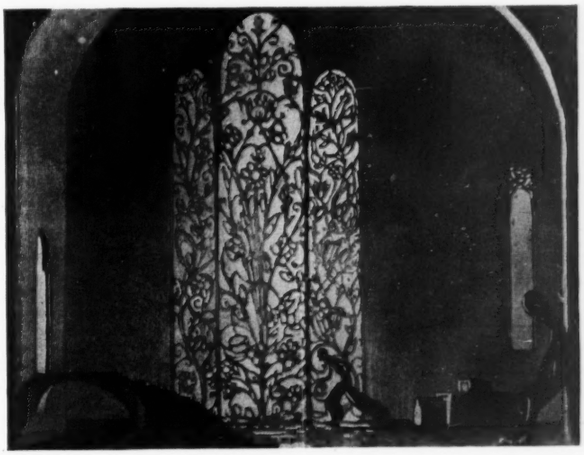
All those who have been thinking in terms of the theatre recently have been aware of the change which has taken place in the last decade in the plan or lay-out of stage sets. To get a clear picture let us look over the evolution leading up to our modern stage settings. All of which may help us to understand the present and appreciate the unfoldment of the theatre of tomorrow which is destined to play a greater and greater part in the life of man as his margin of leisure increases. As far back as the Greeks it is supposed that elaborately painted settings and properties were used. It is possible from the remains found underneath their stages that they had intricate mechanical devises for depicting such episodes as the chariot of Media riding on the clouds, or, for the raising or lowering of an enormous curtain from the stage floor. In the middle ages the miracle plays had large constructions on wagons in which a picture of heaven and one of earth was represented simultaneously on two different levels. Sometimes a large painted mouth of a dragon represented the horrors of hell. The masque which preceded Shakespeare and was presented to court circles was elaborately produced in large banquet halls with elevated stages, curtains and gorgeously painted scenery. For the Comedia dell' Arte of the Italian Renaissance was used a portable painted arch much like our proscenium and formalized painted setting that had little variation and was used over and over again for different presentations. From the grand opera with its over-elaborate, cumbersome details, the drama of fifty years ago borrowed the over-ambitious stage settings against which it has had to struggle ever since. The advent of electricity with its multiplicity of uses and adaptations brings us to the problems of our present times in which the mechanics are reduced and the emotional uses of light and color come into their own.

In this school of simplified stage sets the outstanding requirement seems to be an expression of feeling so fundamental and so simply put that its understanding would be practically universal. We tried to emphasize this in the preceding article in the suggested stage pictures where elemental emotions respond to certain line combinations and juxtaposed masses of light and dark as well as color. It is in this way rather than the metriculous delineation of detail that we may expect to achieve dramatic significance. In thinking of stage sets, their use and how they are assembled, it seems best to organize the various types most suited to the little theatre, as follows:

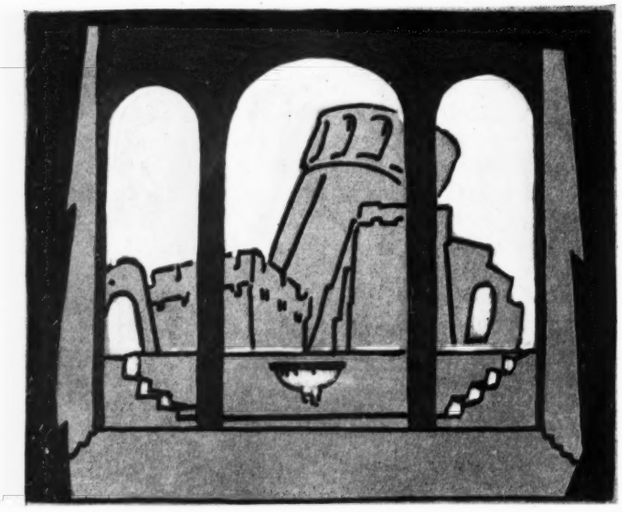
1. Skeleton sets.
2. Screen sets.
3. Drapery, plus symbol sets.
4. Triptych sets.

The skeleton set is one in which the main mass or structure remains throughout the course of the play; variations for the different scenes being made by the addition or subtraction of architectural details and change of background and lighting. The skeleton set has been found to be most practical in most little theatre productions because of the comparatively small stage construction involved. It will be seen by the accompanying illustrations how easily the main structure or motif in this form of setting may be adapted, not only to the several scenes of a play, but also how it lends itself to the four types of drama to be considered in this article. Some of the most artistic productions seen in America in the last few years, such as Sothern and Marlowe, Jane Cowl's "Romeo and Juliet," Walter Hampden's "Capansacci," John Barrymore's "Hamlet," have all used this type of scene with suitable modulations for their particular individuality.

Inasmuch as many little theatres are equipped with stages and built prosceniums, while others are not, a second kind of stage decor to be taken up here is the screen set and one that much resembles the portmanteau theatre of Stuart



Smooth, easy lines of fantasy with easy transitions and no conflict



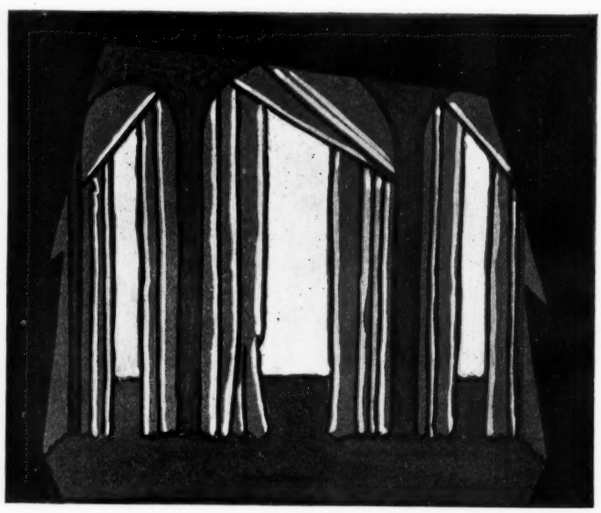
No. 13—Skeleton setting for Romeo and Juliet, Act I, Scene I

Walker. The essential elements of these sets is first of all the back cloth which will carry most of the picture qualities of the scene and the screens. Where there is a proscenium the screens act as wings, and even tormentors, and where there is no proscenium the screens must be high enough to form a substitute for it, as they reach the ceiling or some other horizontal line with which they form the frame and lend distance to the play. The screen set offers great opportunities for ingenuity and originality and may be used to produce many interesting decorative effects. The back cloth, for instance, may be treated in a great variety of ways. It may be a flat surface painted in such a way to lead the imagination on and must not, above all, be a realistically painted picture. It should be detached from time and place, or as Arthur Symons has said, of Gordon Craig's settings, "they have atmosphere without locality." A very practical and suitable idea especially in fantasy is to have the back cloth draped and decorated with a forest scene or imaginary castles in the air, or flowers used as in the *mille fleur* tapestries. These might be executed by painting with dye or more ambitiously in batik, or, if great pains are exercised in selection of colors and values an appliqued pattern is effective. A wood block print to stimulate brocade for a regal interior is easily made. Or again a background of a many panelled screen immediately gives a Chinese or Japanese feeling as was so beautifully done in an early Theatre Guild production of Masefield's "The Faithful" at the Garrick Theatre in New York.

The type of setting we call drapery, plus symbol, is worthy of consideration because so many of the stages in clubs, schools and places where little theatres work are equipped with complete drapery. The practical thing to do is to study the play and abstract the most telling symbol that is necessary to express a mood of a scene and serve as a devise to carry on the stage business. If in a forest scene it may be a definite tree; if it is an interior it may be a doorway as in Ill. No. 1. Sometimes it may be a bridge, or a fountain, or a gate, or a column, but always it is the keynote to the story and must be treated in such a way as to retain the unity of the whole play. Robert Edmond Jones, in his settings for "Macbeth," used this idea and in the sleep walking scene Lady Macbeth walked on to a black draped stage set only with silhouetted frames which represented the moonlit interior of Dunsinane Castle.

The triptych set holds many possibilities because recently so many of the miracle plays of old France and England have been produced with such success in little theatres. By the triptych set is meant an enlargement of the old early Gothic triptych, in other words it is a construction much like a three-panelled screen in which the two side panels are smaller and may fold back over the middle one which is the larger of the three. It may be set up against a neutral background. When the small panels are closed it can suggest a gateway or stately portal, while open it could be an interior. While the tops of the panels may be in the shape of pointed arches of the Gothic for early miracle plays in keeping with the feeling of the enlarged church triptych yet it becomes easily adaptable to the oriental or Hindoo play as well. In the play "Shakuntala," a Hindoo atmosphere may be suggested by the triptych again with the panels finished in dome shapes and suitable colors to represent the minarets and towers of the Oriental temples.

Having passed from the designer and his place in the theatre arts and through the evolution of the modern theatre it is well now to consider the drama in its various forms. Just how all these elements of design of mechanics and forms of drama are to be welded into a unified whole is the big problem of production. As in the first article it was the purpose to introduce the means by which the designer could create moods, establish atmosphere and abstract the essential motifs of emotion; now it becomes imperative to study the play and, having determined its moods, decide on the appropriate mechanics of setting and return to the elements of the design for their expression. Every student of the drama realizes the four types of drama are the serious drama, pure comedy, farce and fantasy. And as has already been suggested each demands a certain use of line, form and color if not a distinct mechanism of setting. As a study of serious drama let us consider Shakespeares' "Romeo and Juliet," where the conflicting forces of the two families of Capulets and Montagues around the hero and heroine resulting in the latter's tragic ending establish at once a central theme for the creation of the setting which is sustained

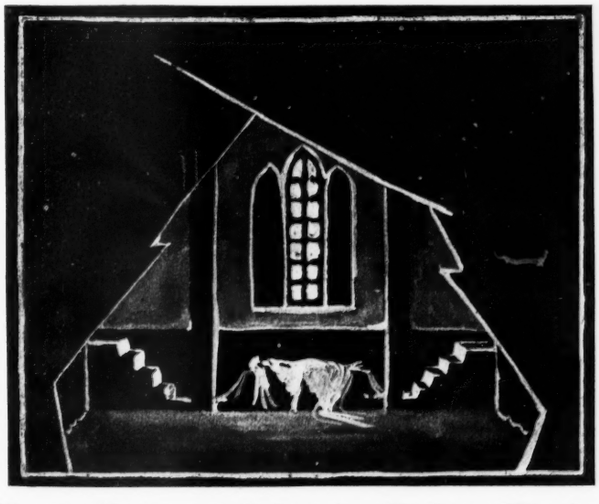


No. 14—"Romeo and Juliet," Act I, Scene V, where the complexity of the plot is expressed by the increased oblique lines and the amount of dark.

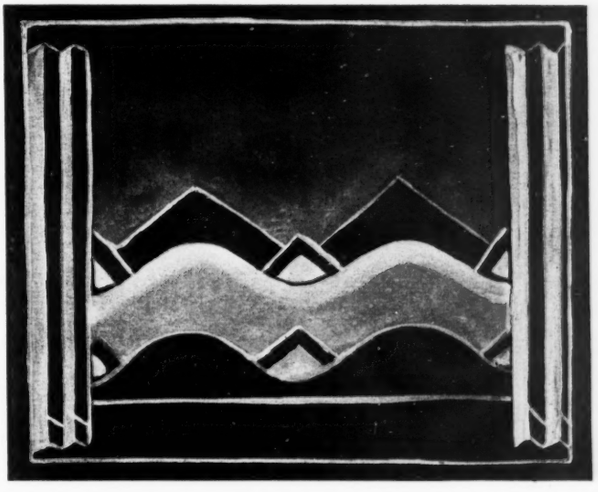
throughout and is the keynote. This means to the designer the uses of strong, dignified and opposing line. It seems best to avoid emphasizing large masses of yellows and orange, symbols of buoyancy and joy, but rather the introspection of blue and blue violet. And because there are certain psychical elements involved reds and red violet in low values seem appropriate, and black, foreboding death. To avoid confusion, or flamboyance, the dominant scenes of the play rather than each particular one should be stressed. And when these are established in their climactic order they point as guide posts for the artist in building up suitable atmosphere that rises gradually to a crescendo concomitant with the climax of the play. The artist can see the importance of a sustained use of line, mass and color, but as Shakespeare has interspersed certain brighter motifs just so the designer must respond to these in securing variety—light scenes as opposed to strong darks. He has always the problem of reconciling the two big principles, unity which stresses the dominant idea and variety which gives relief.

In the first scene where the two factors meet to quarrel in the public street, a note of impending strife is struck that grows in intensity as the hatred of these sides increases. A much more fatal and terrible mood comes into the play when Romeo meets Juliet at the ball in the dim halls of the Capulets', and this also grows in climactic power on through the killing of Tibult and the potion scene when Juliet in defense of her marriage to Romeo drinks the sleeping draught to Romeo's scene with the apothecary when, having heard of Juliet's seeming death, he buys poison. All the threads of the story come together in the tomb scene where "this palace of dim night" strikes the culminating cord of this poignant symphony.

In taking a modern serious play into consideration something of the same detailed study of the plot is necessary but the treatment is different because of the action brought down to everyday convention, or people whom we might see living in our own community. Perhaps "Jane Clegg" is one very popular modern tragedy given a great deal in little theatres and one in which the scenic treatment is of much interest to the designer because of its prosaic kitchen and living-room interior throughout. But here it becomes the problem of assembling all the smouldering ambitions of the heroine and welding them together with the atmosphere of a crude interior. Why not disregard any thought of reproducing the furniture and walls of a usual kitchen, however true they may be to one's conception of the realistic qualities of the play, and create an interior from the general mood or impression with abstraction suitable to the piece? This calls for drastic elimination and detailed selection of strong lights and darks, thereby reinforcing with intensity the significance of the play. When a play of such moving strength, set as it is in a very mundane interior is pictured by the artist with the usual array of bedraggled windows, dingy walls, cooking stove, pots and pans and the obvious kitchen utensils on an old table it cannot but produce an effect of too much nearness to the audience. However true so many details may be to any kitchen interior, while they might help in a play of less important plot, they can only distract the minds of the spectators who too often are busy counting up the details before their eyes and making a mental note of their accurateness. In such a play it is more necessary to do all that can be done to bring out the drama of the situation with suggested background than to dissipate the story with useless matter.

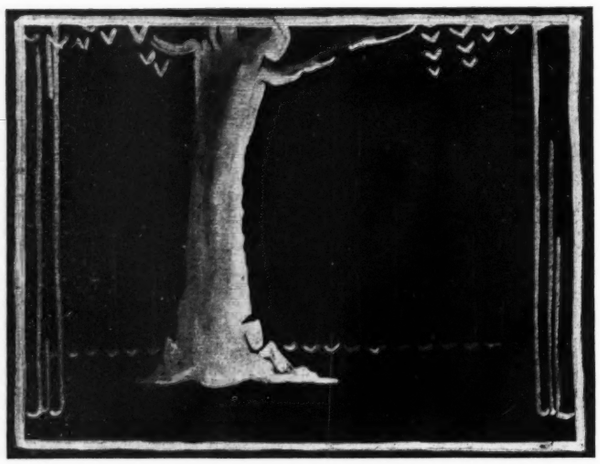


No. 15—"Romeo and Juliet," Act V, Scene III, where crescendo of the plot is emphasized by almost complete darkness and opposing lines.



No. 16—The black cloth of the screen set may be treated in a variety of ways and should not above all be a realistically painted picture.

The miracle play presents a much simpler theme to cope with because of its very naive quality. Here we have no great mental or physical odds brought to bear on the characters but one of quiet faith and deep religious tranquility. While the old potency of these unique dramas is no longer a profound lesson in moral strength as it was in the dark ages when few could read or write, they remain for us beautiful pictures of the connection of the church with the layman. Since the church brought forth these little masterpieces and produced them first of all in the facade to stimulate the biblical interest of the masses, there remains a heritage for us when we use the simple line tone of the early Gothic for these quaint stories of the lives of saints. Probably the church window with its rich stained glass effect is a practical and easy background to achieve, and at once establishes a motif undeniably connected with religion. Another setting could be the use of the enlarged triptych described above. This can at times suggest the entrance to the heav-



No. 17—Drapery, plus symbol, that is always the keynote to the story.

enly kingdom or have indented niches in which saints may stand to recite their lines as if pictured by some old master.

The pure comedy, where the words to be spoken by the actors rely for their effect on the utmost attention from the audience, requires also a background of simple treatment with lines that serve to strengthen and develop the delicate framework of the plot, as do the lines of the serious drama. In the great comedies of Shakespeare, Moliere, Goldoni and Shaw it is but carrying coals to New Castle to add flamboyant scenic sub-plot to a setting when this can only detract from instead of help create the desired atmosphere. Because the pure comedy does not have great conflict going on within it, it no longer seems necessary to employ the oblique or opposing lines but requires instead the restful ones or slight curves to introduce the subtlety in a smooth easy flow. The scene in the first article where the horizontal lines are predominate would be a good example of a setting for "Twelfth Night" or one of Moliere's comedies.

Since the comedy is a smooth, subtle, easy moving vehicle, the use of lines, values and colors should be such that have easy transitions, flowing areas. It would be light in value and high in key. And now the hues suggest joy and life with dignity rather than raucously as in the farce, while some scenes may even verge on to the serious.

In coming to the farce we no longer employ the straight or restful lines of dignity and simple lines of pure suggestion are laid aside for those more explosive and having lack of coherence or story-telling qualities. In these plays of exaggerated situations that are so often strained beyond any semblance to actual occurrences in real life that only the persons in the play seem real, it becomes necessary to bolster up the fictitious element of the plot with the aid of proper scenery to produce credulity with the audience. In Victorian Sardou's "A Scrap of Paper," where the entire plot revolves around an important love letter and its transference from one character to another is all the essence of typical farce. The short curves and broken masses used over and over again in this French interior with their quick rhythms give at once a feeling of hilarity and humor. The colors may be the warm reds and red orange and also yellow to denote youth and sunshine—while the whole key may be expressed by scattered lights and darks high in value because of the lightness of mood in contrast to the serious play with its low key.

The fantasy deals entirely with unreal events and often moves about people of equal unreality. Many plays are often a combination of the comedy and serious play and this fantasy idea as in Barrie's "Dear Brutus" where, in the second act, the persons of the play enact their life's ambitions and return as themselves again in the third. The scenes of such a play, of course, change deliberately from one mood of design to another.

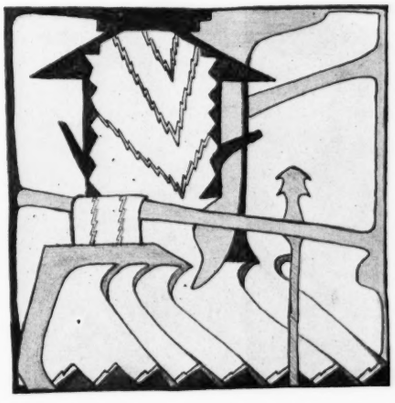
In Percy Mackay's "A Thousand Years Ago," we have a typical fantasy where the story of Tourandot and her love of the prince disguised as an entertainer moves in a strange world of dreaminess and invention through an Oriental court of splendor and rich coloring. Here the dramatic events do not necessarily become climactic in order to furnish a background to the piece, but are pictorial enough to furnish history or story to the spectators. Because in the fantasy one's imagination moves from the real to the unreal

(Continued on Page 56)

The draped black cloth with the forest scene is especially well in fantasy. Design by Albert Rutherston from "Design in the Theatre."

No. 18—The use of the enlarged triptych is in keeping with the early miracle plays and is easily adapted to places of limited stage space because of its simplicity of construction.

"Orchids of Iron"—Vera F. Howard



"A Steely Syncopation"—Ina Davidson

"A Witch Goes Forth"—Lillian Witter

DYNAMOS INSPIRE
DYNAMIC DESIGNS

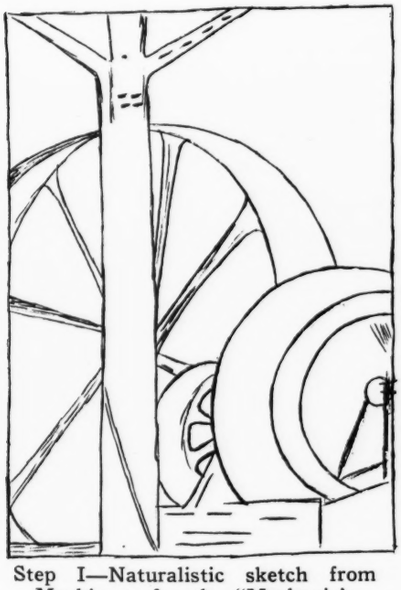
DYNAMOS INSPIRE DYNAMIC DESIGNS

Ethel M. Arnold
Kansas State College, Manhattan, Kansas

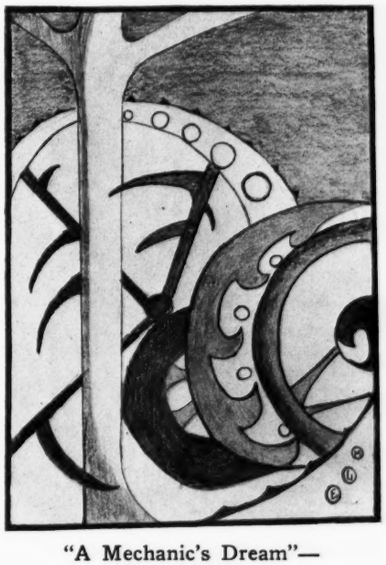
. . . . . all the while
She hums there softly purring with delight
Because men bring the riches of the earth
To feed her hungry fires.
The Turbine—Harriet Monroe

IF there are poems in machinery, then perhaps there are designs, too. At least my first year design class thought it worth trying when we had grown a little weary of birds, flowers, and trees. So we paid a visit to the college power plant, where gigantic machines ceaselessly produce light and heat for us. At once design possibilities presented themselves. Elemental shapes—cube, sphere and cylinder—grouped for efficiency; rhythm in the steady thrust of pistons and the whirr of wheels; gleaming highlights and smoky shadows on the steel and a sense of force and strength in the very air. Because of the confusion it seemed wise to select and eliminate, so each student equipped himself with a finder (a piece of toned manilla paper with a rectangle of pleasing shape cut from the center.) Using these as frames to separate little compositions from the surroundings, each student sketched several with pencil on drawing paper, emphasizing the dominant movement and shapes but eliminating unimportant details.

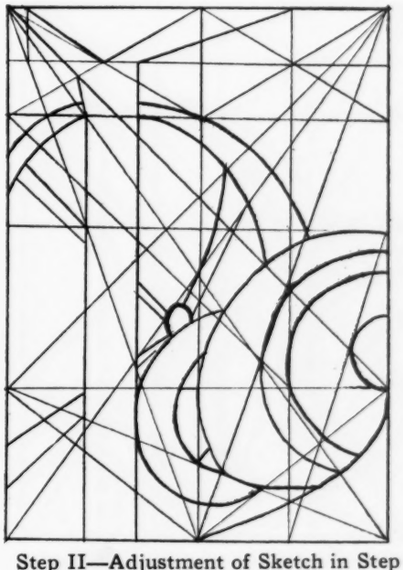
Returning to the class room the decorative possibilities in each sketch were weighed and the most desirable chosen. The next step was to translate the sketch into a more decorative form. Various means may be used to achieve this result, but for this particular problem we chose to adapt the sketches to Dynamic Symmetry lay-outs. Something about the use of machinery demanded anything but a static



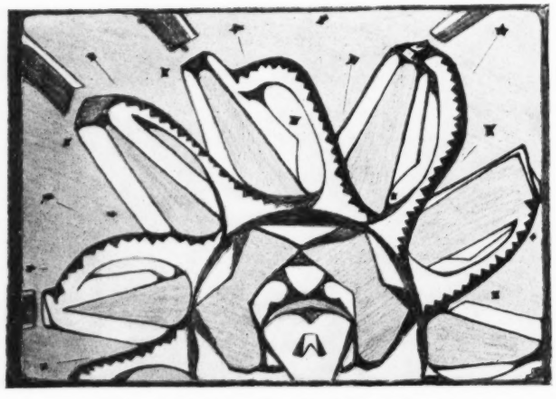
Step I—Naturalistic sketch from Machinery for the "Mechanic's Dream", by Mary L. Evans.



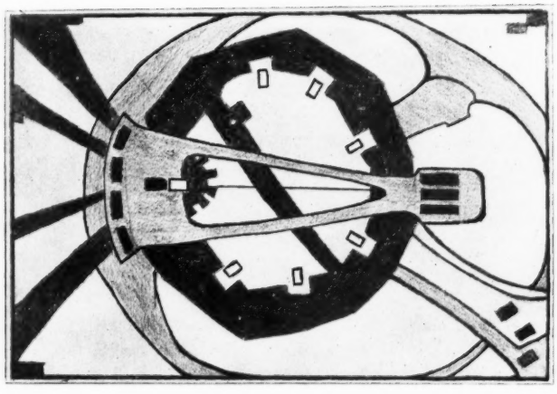
"A Mechanic's Dream"—Mary L. Evans



Step II—Adjustment of Sketch in Step I to Dynamic Symmetry Layout.



"The Steel Star Fish"—Mary French

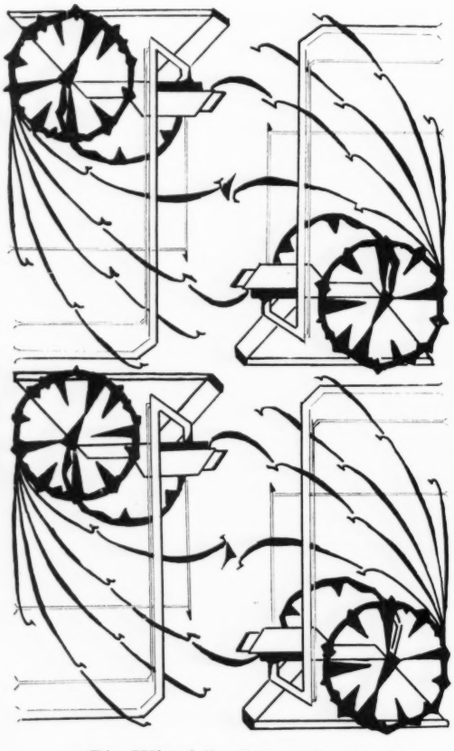


"The Sun Dial"—Mary Radle

result. My students are familiar with the Hambidge theory, understanding the construction of root rectangles and dynamic lay-outs. Choosing a square or root shape which conformed most closely to the external size of his sketch, the student constructed diagonals and reciprocals within the *shape* until it seemed satisfactorily divided into proportional areas. The original design is now translated or adapted to the dynamic lines of the lay-out. Here the student's originality begins to creep in as he plays with the forms, adjusting them to slightly different spaces, accenting some, subordinating others, tying together or eliminating. We like this method especially because it quickly brings two results—first, it checks up on the proportion of the parts; and second, it forces the worker to think in terms of design.

With the general plan of the motif thus determined the next and final step lies in the decorative treatment of the parts. One student will do fanciful little quirks to the lines, another will evolve an unusual surface treatment, still another will play the "music of the edges." Sometimes a giant wheel became a huge flower-like shape, a pipe serving for the stem (a pipe-stem the student said). Saw-tooth edges, notches and zig-zag bands seemed especially expressive of the machinery. Shapes of bolts, the effect of rays of light, and flying sparks figured in some of the designs. We tried to keep something of the force of the machine but not too much of the form, since, after all, no one desires or could use naturalistic patterns of generators, electric coils or oil gauges.

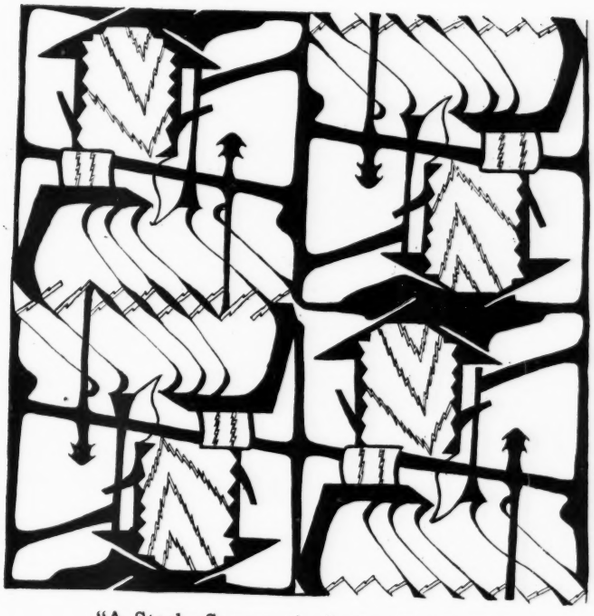
In carrying this problem to completion, the motif was executed in three values with pencil on rather rough paper,



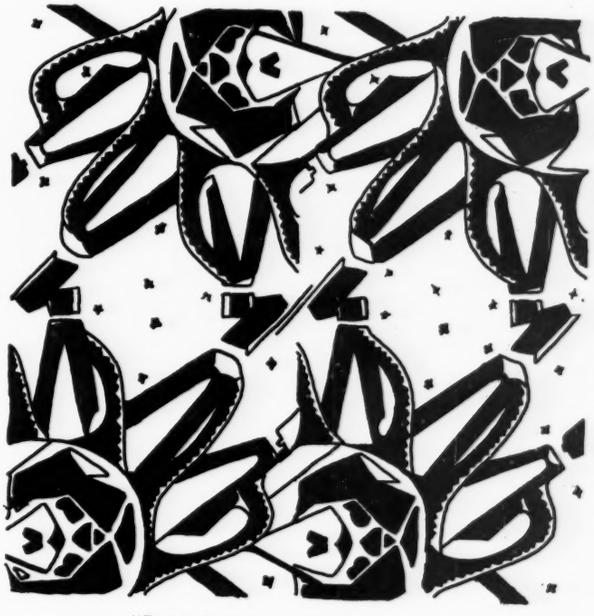
"Pin Wheels"—Reland Lunbeck

"Steel's Lightning"—Mattie M. Engle

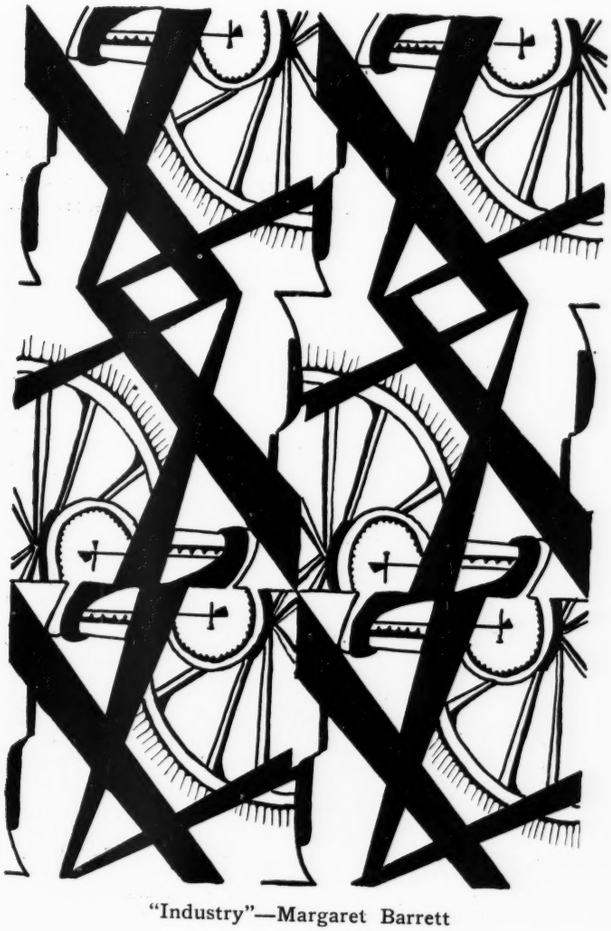
"Steel's Lightning"—Mattie M. Engle



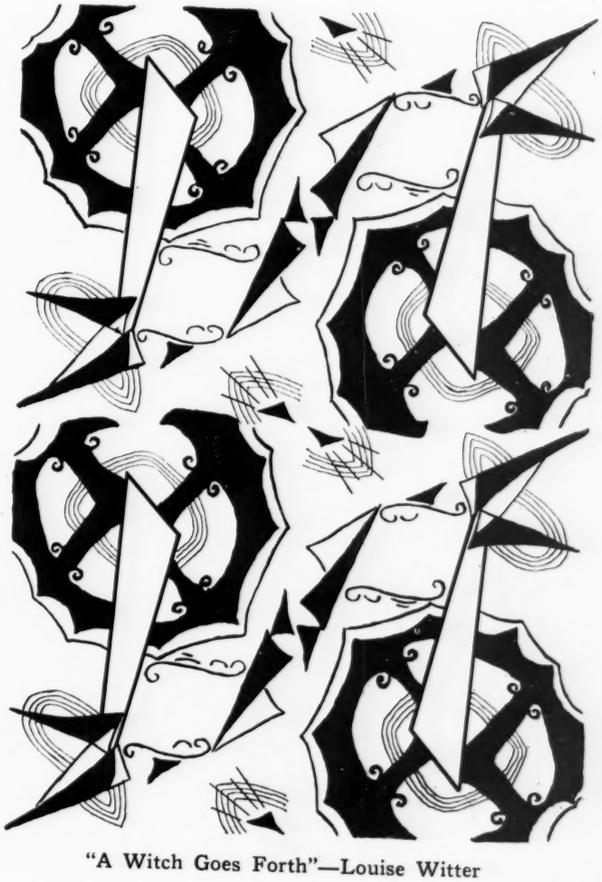
"A Steely Syncopation"—Ina Davidson



"Steel Starfish"—Mary French



"Industry"—Margaret Barrett



"A Witch Goes Forth"—Louise Witter

the designer striving for texture quality as well as a pleasing distribution of light and dark. Various other arrangements were tried with some very interesting surface patterns resulting. The students enjoyed the problem. Perhaps because of the opportunity to "watch the wheels go round" but perhaps, too, because it offered a different inspiration and a new source of design.

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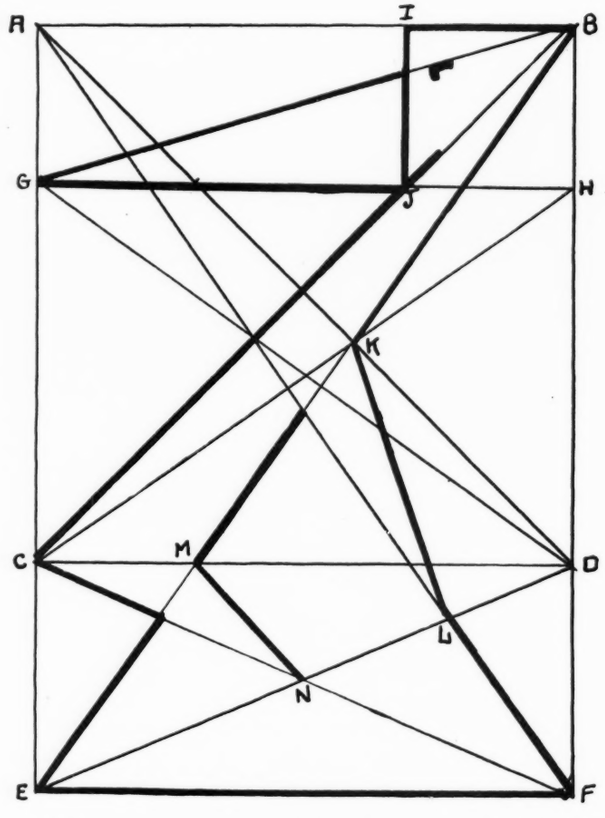
STAGE SETTINGS FOR THE SERIOUS DRAMA, COMEDY, FARCE AND FANTASY

(Continued from Page 52)

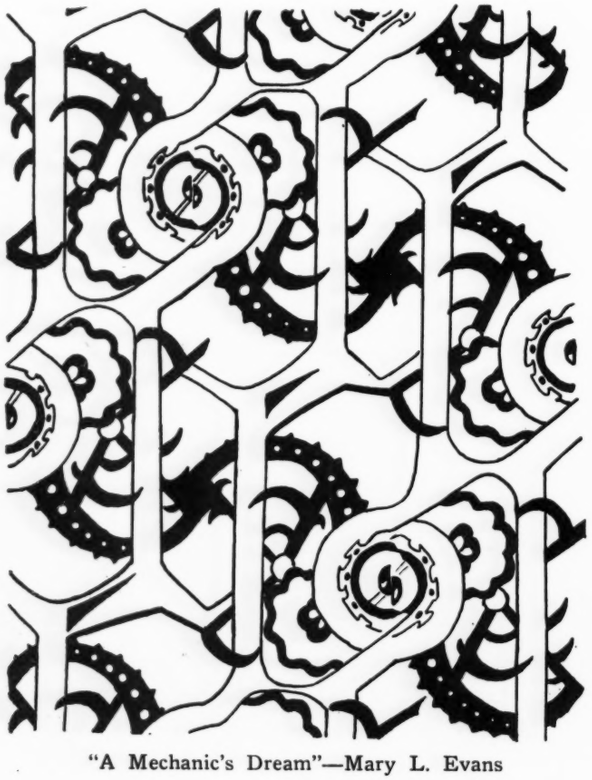
with the same ease as one would in a dream, there are therefore easy transitions in values in contrast to the sharp clash of the climactic as in the opposing forces of tragedy. In fantasy the lines that lead the eye easily or the free flowing lines and unrestricted curves flowing from one to another with dreamlike grace are the most significant.

We avoid the physical colors and employ the blues and greens of unreality, colors that lead the imagination on into this strange world. While the fantasy is scanty in dramatic bulk and lacking in tangible factors, it is most necessary for the artist to avoid anything that might destroy its desired fragile quality.

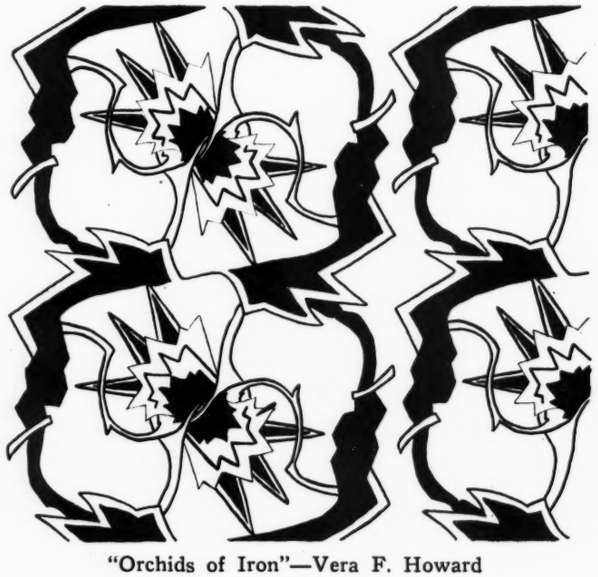
This then leads to a final admonition that above all the designer should select fundamental moods and emotions in the theatre, and by a use of easily read masses and lines help the audience into the realm of the drama and resulting artistic contact.



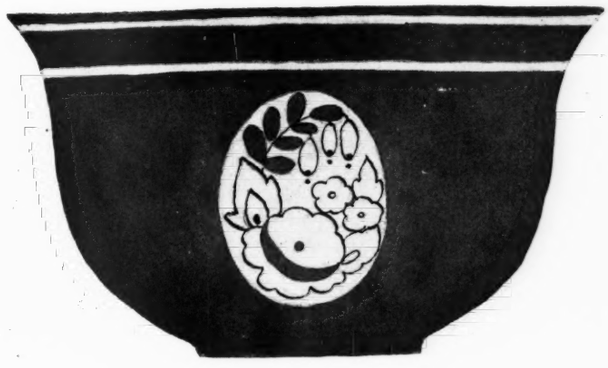
ABEF—a root two rectangle based on square ABCD. AF, BE, AD, BC, CF, DE are diagonals. GHCD is a root two rectangle constructed within square ABCD. BG, GD, HC are diagonals of the new shapes. IJBH is a square constructed on width BH. KL, MN are lines drawn between intersections.



"A Mechanic's Dream"—Mary L. Evans



"Orchids of Iron"—Vera F. Howard



BEGINNERS' CORNER

Jetta Ehlers . . . . 23 Sherman Ave., Newark, N. J.

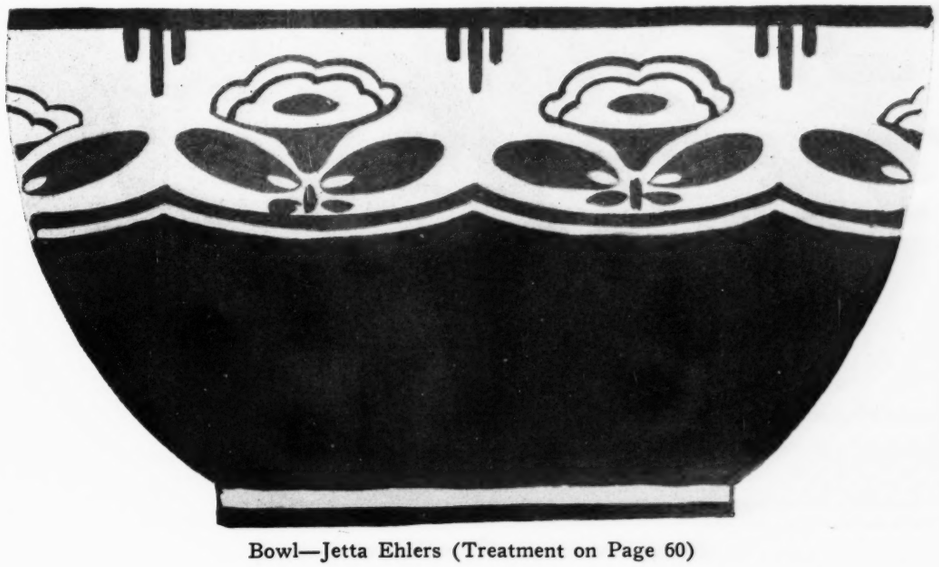
IN COPPER LUSTRE

WE will consider for our page problem this month the decoration of a small cream and sugar. For this we will use Copper lustre and a bit of bright color, and I am sure we shall be delighted with the result of our labor. There is a richness about Copper lustre which makes a great appeal to most people. Many beautiful specimens have come down to us from the past, and most of you I am sure are familiar with these lovely old pieces. Many of the finest have bands of color, either plain or in pattern, made very gay with it. Of course the old ware has a charm we need never hope to reproduce. The body was not the hard one we will have to use, but a much softer ware, a sort of faience. One can usually distinguish the genuine old pieces because of their light weight.

I think our forebears must have loved these pitchers and so they were highly treasured, and because they were we have them to enjoy today. Memory brings to mind a certain mahogany corner cup-board with a shelf adorned with a whole flock of these lovely pitchers including one tiny one, about two inches high, which a certain restless small child in vain begged to "*please*, let me just hold it." Visions of a happy-go-lucky handling of things in general denied her that pleasure, but longing eyes drank in its beauty from a safe distance. Some of these old specimens are very valuable and are much sought after by collectors. It is possible for us to do some very good things of this sort as the Copper lustre is not especially difficult to handle. It belongs to the group of lustres which are more or less opaque and do not have to be padded.

Any of you who are making sales or doing order work will find these little sets ready sellers. At most bridge parties where the refreshments are served at small tables the hostess can use several sets and so is often on the lookout for attractive ones. They make most charming prizes, too; or gifts for holidays and birthdays. So many showers are given now-a-days for prospective brides and here again the little sets come in most acceptably. With so many uses they as a rule sell very well. In making things for sale a good rule is to aim for effectiveness with a minimum of work. A set such as we are working out meets that requirement and therefore is practical.

China decorators are up against something with which they have never had to contend before, and that is the quantity of very good commercial stuff in the shops today, which is moderately priced as well as attractive. It used to



Bowl—Jetta Ehlers (Treatment on Page 60)

be that the artist-decorator was the one source of supply for anything at all fine. With the general education in taste of the public has come a response from the manufacturer, and never before have such well designed things been seen in the shops. This is notably true in both textiles and ceramics. Thousands of dollars are being spent in assembling exhibitions of modern art, in the larger cities many of the big department stores having wonderful exhibits. One in New York at the present gave over the entire fourth floor of its big building for the purpose and at least a dozen countries have contributed to the showing.

The first step in the work will be to trace and transfer the design to the china. In placing the oval medallion be careful about the spacing. It is best to have the widest margin at the lower part of the piece. If you place it too low it will have the effect of dropping off. Avoid placing it exactly in the middle as that is the most uninteresting arrangement you can make. Having completed the tracing go over it with India-ink, rubbing down the inked line with fine sand-paper until just a faint grey line remains. Since the lustre does not have to be padded the color in the motif may be laid in first. For this use Yellow Red, Yellow Brown, Apple Green, Royal Green, Russian Green and Royal Blue. Use Yellow Red for the large flower, shading it from full color at edge to white in the center. Do the dark section with solid color. The two small flowers are of Yellow Brown also blended to white in the center. Sometimes in doing a thing of this kind a small brush, called a stippler, is useful in blending the color. The three little drop-like buds above these small flowers are of Russian Green which as some of you may not know is a fine Turquoise. The dark spot on the tip and the dot below are of Royal Blue. The large leaves are of a mixture of Royal and Apple Greens. The spray of small leaves at the top are Royal Blue.

A word in passing about the Yellow Brown. This color seems to be very poor in certain makes. Sometimes it is a very dead, even dirty brownish color. The quality it

Jug (Copper Lustre on Yellow Ware)—Nellie Hagan